DYNEX
MAGELLAN BIOSCIENCES

Dynex Technologies DS2 Troubleshooting Guide

Symptom	Possible Causes	Resolution
Sample Tip Errors		
Tips are being picked up, but the system is not detecting that a tip was picked up	Tip sensor is dirty	Clean the tip sensor area (where the red laser is) thoroughly with an alcohol wipe.
	Customer is not using Dynex Tips	Ensure in the future that the customer is using Dynex tips.
System is not picking up tips or is dropping tips in transit	Tip pick up location is out of calibration	Calibrate arm, ensuring that the tip used to calibrate the system is put on the instrument as securely as possible.
Wash Head Assembly Errors		
The wash head is not being picked up and/or released successfully.	The pick up location is out of calibration	Calibrate the arm at the wash head pick-up position.
	The support posts on the wash head park are not aligned properly	If instrument serial number is below 1DSA-0339, see TB149.
	Brass clamp may have excess glue.	Check the brass clamp for excess glue. Send a replacement wash head if there is glue.
The wash head is being picked up, but the system does not detect that the wash head was picked up.	Wash head magnet and/or sensor is dirty	Clean the wash head sensor area (black dot in the metal ring on the pipette) and the magnet on the right side of the wash head with an alcohol wipe.
	Wash head sensor is out of calibration	Perform an arm calibration with the wash head detect routine.

DYNEX Technologies, Inc.
(800) 288-2354, (703) 631-7800
(703) 631-7816 (Fax)

CERTIFIED ISO 9001

14340 Sullyfield Circle
Chantilly, VA 20151 - USA
www.dynextechnologies.com

Symptom	Possible Causes	Resolution
Plate Washing Errors		
Fluid is left in the plate after washing and aspiration.	The wash head and/or aspiration pins are clogged	Clean the aspiration pins using the cleaning wire. If this does not work, remove the 4 set screws from the sides of the wash head manifold and soak the wash head standing upright in 70% alcohol with liquid filled up to the spring gap in the wash head. Rinse the wash head and run test washes to ensure the problem is resolved.
	The dispense tubing is not in place	Remove the tip waste bucket. The dispense tubing is the thin tubing furthest to the left. Remove the tubing from the pinch valve, roll it and place it back inside the pinch valve.
	The plate definition is incorrect	Open the plate definition for the plate in use. Use the "show" buttons to test that all the plate parameters are programmed correctly, paying particular attention to the aspirate height, the sweep height and the sweep stroke.
	The sweep mode selected may be insufficient.	If no sweep mode is selected in the wash step, try a sweep or super sweep mode for improved aspiration.
	The system is out of calibration	Calibrate the wash positions in the upper and lower plate carrier. Ensure that the aspiration pins are barely touching the bottom of the plate wells, that the pins are centered in the wells, and that the spring gap is not compressed.

Symptom	Possible Causes	Resolution
Plate Washing Errors		
System is not dispensing any fluid during purge and wash	System tubing is sealed in the pinch valve	Remove the tubing from all pinch valves. Roll the tubing and insert it back into the pinch valve.
	Wash buffer bottle quick release valves are not snapped in place	Remove the quick release fitting from the quick release valve. Reinsert the fitting into the valve, ensuring a clicking noise is heard to indicate the fitting is securely connected.
	Pump is not primed or is not functioning properly	Requires a service call.
System is not dispensing wash fluid/dispensing sufficient wash fluid to row "x"	The dispense pin corresponding to row "x" is clogged	Use the cleaning wire to clean all dispense pins.
	There is a clog in the wash head manifold	Remove the four set screws in the wash head manifold and soak the wash head standing straight up in 70% alcohol. Ensure the fluid is only filled to the spring gap. Rinse the wash head thoroughly with water.
Wash buffer is not dispensed to the first few columns during the first wash of the plate	The wash head has not been purged or has not been purged sufficiently.	Ensure all wash steps have a purge programmed. Ensure the purge volume is at least 3000ul.

DYNEX
MAGELLAN BIOSCIENCES

Symptom	Possible Causes	Resolution
Plate Washing Errors		
Wash fluid is overflowing from the plate	The dispense pins are clogged	Clean the dispense pins with a cleaning wire.
	The aspirate pins are clogged	Clean the aspirate pins with a cleaning wire.
	The wash head manifold is clogged	Remove the 4 set screws from the wash head manifold. Stand the wash assembly straight up and soak it in 70% alcohol or disinfectant. Rinse the wash head, put the screws back in and run a test wash.
	The dispense tubing is not in place or is sealed	Take the dispense tubing out of the pinch valve (far left) and roll it. Insert it back into the pinch valve.
	The plate definition is incorrect	Review the plate definition and ensure all the wash settings are correct (especially aspirate height)
Pipetting and Liquid Level Detection Errors		
System is blowing bubbles in the sample prior and may or may not receive a clot detection error	The tube in the system configuration does not match the sample tube in use	If the customer is using nesting cups or 100mm tubes where the fluid is above 75mm in height, ensure the customer has defined a 100mm tube to use with these samples.
	The sample tube positions are not in calibration	Perform an arm calibration on the sample tube positions.
System is not pipetting controls correctly	There are bubbles in the control tube	Recommend that the customer double check control tubes as large bubbles may form across the tube diameter and interfere with the liquid level sensing mechanism.
	System control tube locations are out of calibration	Calibrate the control tube locations using the arm calibration software (DS2 Tool box)

DYNEX
MAGELLAN BIOSCIENCES

Symptom	Possible Causes	Resolution
Pipetting and Liquid Level Detection Errors		
System is not pipetting reagents correctly	Customer is using the incorrect sample tube	If the customer uses a small reagent tube in place of a large reagent tube, the system could aspirate insufficient fluid or air. Make sure the customer is loading the bottle type requested by the system.
	Too many bubbles in the reagent	Large bubbles will be detected during liquid level sensing. Ensure fluids have no bubbles when loading.
	System reagent tube locations are out of calibration	Calibrate the reagent tube locations using the arm calibration software (DS2 Tool box).
Reader Errors		
Prior to reading the plate, an error appears stating that the system failed the sanity check	The filter wheel or lamp is dusty	Remove the cover from the filter wheel and blow compressed air into the reader optics area.
	The 405 filter is dirty	Remove the 405 filter and clean it with lens paper. Reinsert the filter into location 1 in the filter wheel.
	The 405 filter is degraded	Send a replacement 405 filter to the customer.
	The lamp is misaligned or the reader is not functioning properly	Requires a service call.
Prior to reading the plate, the customer receives a "Channel Variation Error"	Fluid has spilled on the reader optics or the reader optics are dirty.	Power down the DS2 and clean the upper and lower reader optics located underneath the sample tip locations. Allow the optics to dry, turn on the DS2 and the software. Ensure the system self test and a read only assay perform with no errors.

DYNEX
MAGELLAN BIOSCIENCES

Symptom	Possible Causes	Resolution
Reader Errors		
The system fails self-test at the reader module.	The filter wheel or lamp is dusty	Remove the cover from the filter wheel and blow compressed air into the reader optics area.
	The 405 filter is dirty	Remove the 405 filter and clean it with lens paper. Reinsert the filter into location 1 in the filter wheel.
	The lamp is burned out	Have the customer look at the back of the instrument during the self test. They should be able to see light coming from the filter wheel area. If they do not see any light, the bulb is burned out. Replacement requires a service call.
	The lamp is misaligned or the reader is not functioning	Requires a service call.
Vacuum Sensor Errors		
The system gives a vacuum sensor error during self-test or prior to washing a plate	Waste bottle cap is not on tight enough	Have the customer make sure the cap is tight, without over tightening.
	Waste bottle cap is cracked or broken	Have the customer inspect the waste bottle cap for cracks. Replace the cap if the customer notices damage.
	Faulty Vaccuum pump or holes/cracks in the system tubing.	Requires a service call.
Plate Carrier Errors		
The plate carrier has become stuck inside the DS2.	The plate was not inserted into the plate carrier properly.	Remove the 3 screws holding the metal panel on the left side of the pipetting area. Carefully use the belts underneath the metal panel to pull the plate carrier out.
	The plate strips were not pressed all the way down in the plate frame.	

Symptom	Possible Causes	Resolution
Assay and Database Errors		
The customer's assay has the same error message at the same point in the assay every time it is run.	The assay file or the database has become corrupted.	Restore an old database
		Export the assay files and any report files the customer would like to keep and then create a new database. Re-import desired assays and data files.
		Rewrite the assay from scratch and send to the customer.